GEOG482/582, SP2020 – Advanced Digital Cartography & GIS

Instructor

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Office hours: Tuesdays 1PM-2PM & Wednesdays 10AM-11AM or by appointment

Class Meeting Time and Location

Tuesdays 2 PM – 3:50 PM (Seminar) & Thursdays 2 PM – 3:50 PM (Activity), PH1-201

The Use of BeachBoard and Your e-mail Account

Class material such as lecture notes, worksheets, handouts, and etc. will be made available under the heading Course Documents on BeachBoard. You can download the material and bring it to the class. All class material will be distributed from BeachBoard in a digital form only. If you will prefer a hardcopy, please make one by yourself and bring it to the class.

You will need to have a CSULB e-mail account to use BeachBoard. Announcements and messages from me to the class may come by email. If you do not check your CSULB e-mail account regularly, but use another account instead, please set your CSULB account so that it will forward messages to your other account.

During lectures we will often spend some time to work with sample problems and discuss practical applications. These activities are meant to build a deeper understanding of the subject matter but it also relies heavily on your active participation. You will also sometimes have work to prepare before classes or other types of homework assignments.

Email etiquette: Please try to include the followings in your email to me (or to other people, too) to better help communication:

- Your official name registered in the BeachBoard (nicknames may work but sometimes it is difficult to figure out who you are)
- The course name that you have the inquiry (I teach several courses so it is very helpful for me to know what course it is about)
- Let's begin by simple greetings (i.e., "Hi professor", " Hi Dr. Ban", "Hi Hyowon"...)
- Your inquiry in the body text
- Let's finish by simple greetings (i.e., "Thanks", "Sincerely", "Best", "Cheers"...)
- And your name in the last line, of course

There are a lot of other email etiquette but I think the above would be sufficient for me. Hopefully, this practice could be helpful for your professional communication in your future, too.

Course Objectives

This is an introduction to the art, craft, and science of cartography. Modern technology has changed cartography from a largely manual pen-and-paper based craft to an interactive computer based process. The full implications of this transition remain to be seen but basic principles of cartographic communication will still remain important. Throughout this course we will emphasize important aspects of cartographic communication; map purpose, geographic phenomena and their measurement, data manipulation such as classification and generalization, large data exploration using visual analytics,

interactive web-based mapping, and various map design issues such as color choice, typography, and layout. Much emphasis is put on hands-on experience for you to learn to apply visual and cartographic techniques to spatial information.

Seminar (Lecture)

Tuesdays 2 PM – 3:50 PM in PH1-201

Class material such as lecture notes, worksheets, handouts will be made available on BeachBoard under the heading Course Documents.

During lectures we will often spend some time to work with sample problems and discuss practical applications. These activities are meant to build a deeper understanding of the subject matter but it also relies heavily on your active participation. You will also sometimes have work to prepare before classes or other types of homework assignments.

Activity (Lab)

Thursdays 2 PM – 3:50 PM in PH1-201

Labs are also in **PH1-201** and follow after the lectures. Details on the labs will be posted on BeachBoard under the heading Course Documents.

Texts

Required:

Slocum T. et al. (2009). Thematic cartography and geovisualization, 3rd ed., Pearson Prentice Hall, ISBN 9780132298346.

Lectures will cover the most of the book topics but in a different fashion so the text serves as a true complement to enrich the lectures, and provide more detail. (The 2nd edition is also OK but the new text is significantly re-organized and updated.)

Optional:

Lo, C.P. et al. (2006). Concepts and Techniques of Geographic Information Systems, 2nd ed., Pearson Prentice Hall, ISBN 9780131495029.

The book will be useful to learn more concepts and state-of-the-art techniques of GIS.

Additional Resources:

Rand McNally (2009).Goode's World Atlas, 22nd ed. Pearson Prentice Hall, ISBN 978-0321652003,

The atlas can be useful as a reference for class exercises. It is also a valuable source for a map-design practice. In addition, online newspapers with good maps and graphics in their coverage of current events.

You will be asked to present to the class and discuss the design of maps on current events. This activity will be ongoing throughout the semester. Maps accessible online can be useful for your presentation in class.

Software:
All software required to complete course assignments is provided in the Geography Computer Labs located in PH1-201 and PH1-208, the Horn Center, and the Library. Additional access to student version of ArcGIS software installation can be provided but technical assistance is not supported.

University labs:
The University provides two open access computer labs: the Spidell Technology Center, located in the Library on the 1st floor and the Horn Center, located on lower campus at the Steve and Nini Horn Center. Both University labs run the current version of GIS software used in this course. Please check the schedules of Horn Center, the Spidell Center, and the University Library.

Geography Department:
In addition to the classroom, the department lab is staffed with students knowledgeable in GIS. Open Lab Hours are also available in PH1-208. There will be certain hours available for you to drop in and obtain assistance with your assignments from the staffs.

Examination Policy

All course work (homework, in-class work, term project, etc.) is expected by the due date. A late penalty of at least 10 percentage units will be taken off each day after the due date.

If you have a genuine reason (known medical condition, a pile-up of due assignments on other courses, ROTC, athletics teams, job interview, religious obligations, etc.) for being unable to complete work on time, then some flexibility is possible. However, if in my judgment you could reasonably have let me know *beforehand* that there would likely be a delay, then a late penalty will still be imposed if I don't hear from you until *after* the deadline has passed. For unforeseeable problems, I can be more flexible.

If there are ongoing medical, personal, or other issues that are likely to affect your work all semester, then please arrange to see me to discuss the situation.

Lab Assignments: You are welcome to discuss the labs amongst yourselves, in fact this is encouraged, but the final product you hand in *must be your own work* (see the section Cheating and Plagiarism below). Details of the lab assignments will be posted on the course web site on BeachBoard.

In-class work & Homework: Most classes have time allotted for discussions, in-class work and other activities. Your contribution and participation in these and in class generally, will be noted, and used to determine part of your final grade, just showing up won't count a whole lot toward this component! Obviously, you will receive no credit for in-class work if you are not present.

During the semester, there will be several homework assignments. The main purpose of the homework is to provide an opportunity to learn how to apply the things we cover during the lectures. Homework will be assigned during class, and usually due by the next class period. If you are having difficulty with assignments you should get help, whether from fellow students or from me. Whatever you do, ask someone!

Term project: As an individual project you will produce a digital map of a topic that you choose. Many students take this as an opportunity to map out some aspect of their favorite hobby or interest. In this project you will go through the entire map-making process; from ideation, through data collection and design, to a final product and the presentation. Further details of the individual project will be posted on BeachBoard.

Tests: There will be continuous evaluations through homework and in-class assignments in the course. In addition, there will be small tests and a final exam that will be given in class. They will cover materials from the lectures and the assignments, and will consist of multiple choices, short answers, and problem-solving questions. There is no final exam.

Final presentation & Project Report:

There will be the **final presentation of your map** on **Thursday, May 14, 2020 12:30 PM- 2:30 PM in the classroom**. For graduate students the project report will have twice larger importance (i.e., 5% of the total points) than undergraduate students (i.e., 2.5% of the total points) in evaluation.

There will be no make-ups except for *documented* medical or family emergencies.

Grading Policy

Overall credits for the course are given approximately as follows:

Lab	**40% (400 points)**
In-class work & Homework	**10% (100 points)**
Term project and related work	**20% (200 points)**
Tests	**20% (200 points)**
Final presentation & Project Report	**10% (100 points)**
	Total 100% (1000 points)

The credits given to each course component reflects my notion that I can only facilitate for you to acquire theoretical and practical knowledge. *Only you* can learn what I want you to. Consequently, assessments relate mainly to your own learning, such as demonstrating practical use of the covered topic matter in homework, in-class work, and an individual project.

Final letter grades will be assigned based on how many percent of total points available you have earned as follows:

90 <= A
80 <= B < 90
70 <= C < 80
60 <= D < 70
F < 60

Withdrawal Policy

According to the "Academic Credit and Regulations" of the University, students are held responsible for completion of every course in which they register OR FOR WITHDRAWING DURING THE FIRST TWO WEEKS OF CLASSES FROM COURSES WHICH THEY DO NOT INTEND TO COMPLETE. Application for withdrawal from the University or from a class must be officially filed by the student at the Office of Enrollment Services whether the student has ever attended the class or not; otherwise, the student will receive a grade of "WU" (unauthorized withdrawal) in the course. Application for withdrawal is made at the Office of Enrollment Services. See http://daf.csulb.edu/offices/enrollment/ for more detailed information.

Attendance Policy

Students are expected to attend all sessions and **attendance will be checked** (2% of the total available credit). Most of in-class works and homework will be announced, assigned, and peer-reviewed during the class. However, if there are unavoidable circumstances, an absence may be excused with necessary documentation. It then becomes the responsibility of the student to follow up to date in the class material.

Cheating and Plagiarism

The following from the Academic Information and Regulations web pages describes regulations and concerns about cheating and plagiarism report to the Vice President for Student Services (PS 08-02):

It is the policy of the faculty and administration to deal effectively with the student who practices cheating or plagiarism. These acts are fundamentally destructive of the process of education and the confident evaluation of a student's mastery over a subject. A University maintains respect and functions successfully within the larger community when its reputation is built on honesty. By the same token, each student benefits in helping to maintain the integrity of the University. This policy, therefore, provides for a variety of faculty actions including those which may lead to the assignment of a failing grade for a course and for administrative actions which may lead to dismissal from the University. This document is written with the intent to support the traditional values that students are on their honor to perform their academic duties in an ethical manner.

General

The following definitions of cheating and plagiarism shall apply to all work submitted by a student. Any change or refinement in the following definitions or applications of the definitions, necessitated by the nature of the work involved, shall be made by the faculty member or departments desiring the change. Any change shall be announced, in writing, in the relevant classes before the work is assigned and a copy of the changes will be filed in the department office and in the Office of Judicial Affairs.

Definition of Plagiarism

Plagiarism is defined as the act of using the ideas or work of another person or persons as if they were one's own, without giving credit to the source. Such an act is not plagiarism if it is ascertained that the ideas were arrived at through independent reasoning or logic or where the thought or idea is common knowledge. Acknowledge of an original author or source must be made through appropriate references, i.e., quotation marks, footnotes, or commentary. Examples of plagiarism include, but are not limited to, the following: the submission of a work, either in part or in whole, completed by another; failure to give credit for ideas, statements, facts or conclusions with rightfully belong to another; in written work, failure to use quotation marks when quoting directly from another, whether it be a paragraph, a sentence, or even a part thereof; or close and lengthy paraphrasing of another's writing or programming. A student who is in doubt about the extent of acceptable paraphrasing should consult the instructor. Students are cautioned that, in conducting their research, they should prepare their notes by (a) either quoting material exactly (using quotation marks) at the time they take notes from a source; or (b) departing completely from the language used in the source, putting the material into their own words. In this way, when the material is used in the paper or project, the student can avoid plagiarism resulting from verbatim use of notes. Both quoted and paraphrased materials must be given proper citations.

Definition of Cheating

Cheating is defined as the act of obtaining or attempting to obtain or aiding another to obtain academic credit for work by the use of any dishonest, deceptive or fraudulent means. Examples of cheating during an examination would include, but not be limited to the following: copying, either in part or in wholes, from another test or examination; discussion of answers or ideas relating to the answers on an examination or test unless such discussion is specifically authorized by the instructor; giving or receiving copies of an exam without the permission of the instructor; using or displaying notes; "cheat sheets," or other information or devices inappropriate to the prescribed test conditions, as when the test of competence includes a test of unassisted recall of information, skill, or procedure; allowing someone other than the officially enrolled student to represent the same. Also included are plagiarism as defined and altering or interfering with the grading procedures. It is often appropriate for students to study together or to work in teams on projects. However, such students should be careful to avoid use of unauthorized assistance, and to avoid any implication of cheating, by such means as sitting apart from one another in examinations, presenting the work in a manner which clearly indicates the effort of each individual, or such other method as is appropriate to the particular course.
Other sources of information on academic misconduct can be found on the Academic Information and Regulations web pages (http://www.csulb.edu/divisions/aa/catalog/current/academic_information/)

Disability Services

Students with disabilities that have been certified by the Bob Murphy Access Center (BMAC) will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Bob Murphy Access Center is located in the Student Success Center, Room 110; telephone (562) 985-5401, BMAC@csulb.edu; https://web.csulb.edu/divisions/students/dss/index.htm.

Please do not upload the course materials to other third-party websites (outside CSULB).

The course materials are for the sole use of the student enrolled in the class. Posting any of the course materials on websites or otherwise sharing course materials with others is prohibited.

Computer Help

The CSULB Technology Help Desk is available for students. The URL for the Help Desk is: http://www.csulb.edu/divisions/aa/academic_technology/thd/; tel: (562) 985-4959.

General Regulations and Procedures

The “General Regulations and Procedures” of the University can be found at: http://www.csulb.edu/divisions/students/studentdean/campus_regulations/index.htm.

Department’s Websites

Geography Dept Webpage:
http://www.csulb.edu/geography
Geography Dept Facebook Page:
http://www.facebook.com/CSULBGeographyDepartment

Tentative Schedule

The most up to date schedule will always be posted on BeachBoard under Announcements. Any significant changes to the schedule will be announced in advance.

Revised: 01/19/2020	**Geography 482/582 - schedule**	
Date (Tue)	**Tuesdays (Seminar)**	**Thursdays (Activity)**
Week1	**Course introduction & outline**	**Ethics in GIS and Mapping**
Jan 21	[Ch. 1 & 2]	[Ch. 26]
Week2	**Selecting a map projection** [Ch. 8 & 9]	**Lab 1**
Jan 28	Map presentation:	Map projections
Week3	**Symbolization** [Ch. 5], WS 1	**Lab 2**
Feb 4	Map presentation:	Base map compilation
Week4	**Map reading** [Ch. 1], WS 1 due	**Lab 3**
Feb 11	Map presentation:	Map varieties & reading
Week5	**Design, color, and typography** [Ch. 10, 11, & 12]	**Lab 4**
Feb 18	Map presentation:	Design & typography
Week6	**Test 1**	**Lab 4 (cont.)**
Feb 25		
Week7	**Choropleth mapping** [Ch. 14], PM 1	**Lab 5**
Mar 3	Map presentation:	Choropleth mapping
Week8	**Isarithmic mapping** [Ch. 16], WS 2	**Lab 6**
Mar 10	Map presentation:	Isarithmic mapping
Week9	**Proportional symbol maps & Cartograms** [Ch. 17] , WS 2 due	**Lab 7**

Mar 17	Map presentation:	Proportional symbol, charts, and dot density mapping
Week10 **Mar 24**	**Visual analytics** [Ch. 26], PM1 due, PM2	**Lab 8**
	Map presentation:	Mapping with visual analytics
Week11 **Mar 31**	**No Class** **Spring Recess**	**No Class** **Spring Recess**
Week12 **Apr 7**	**Web mapping** [Ch. 24], PM2 due, PM3, **Lab 9 (**Interactive web-mapping**)**	**Lab 9 (work at home)** **No Class Meeting** **(AAG in Denver, CO)**
	Map presentation:	
Week13 **Apr 14**	**Test 2** **Lab 10**	**Lab 10 (cont.)**
		Map animation, 3D visualization
Week14 **Apr 21**	**Project work**	**Project work**
Week15 **Apr 28**	**Project work** **(**PM3 due, **PM3 presentation & feedback)**	**Project work**
Week16 **May 5**	**Draft presentation, Peer review,** **Revision of Project work I**	**Draft presentation, Peer review,** **Revision of Project work II** (Last day of class: May 8)
Week17 **May 14 (Th)**	**Final presentation** 12:30 PM- 2:30 PM	**Final Map & Project Report due** (May 14, 12:30 PM)